MAY - 7 2004

Mitigation for Impacts to Aquatic Resources from Surface Coal Mining

1. Purpose and Applicability.

a. **Purpose**. This internal guidance supplements existing guidance so as to provide more explanation for uniform implementation on compensatory mitigation requirements and policies for impacts to ephemeral, intermittent, and perennial streams, and other aquatic resources, affected by permanent fills associated with surface coal mining and, in particular, valley fills. This guidance is directed at field personnel and acknowledges the need for better discernment of resource quality, uniqueness and scarcity, and that all aquatic resources should not be treated equally in terms of impact assessment, data requirements, and compensatory mitigation. This guidance acknowledges the uniqueness of regional and site-specific conditions, recognizes that features constructed in accordance with the Surface Mining Control and Reclamation Act (SMCRA) may contribute to overall mitigation plans, and identifies several appropriate ways to accomplish appropriate compensatory mitigation projects. This guidance is intended to enhance flexibility and support local practices and should not be construed as removing or constraining flexibility or local practices

b. **Applicability**. This clarifying guidance applies to all surface coal-mining projects, whether authorized by individual permit or by General Permit. This guidance does not in any way diminish or expand the need to compensate for impacts to the aquatic environment, or the previously established preference for on-site in-kind compensatory mitigation, but it does acknowledge that impacts are to be evaluated on case-by-case and regional bases in a watershed context.

c. This guidance is based on evolving information and may be revised periodically. None of the provisions in this supplemental guidance bind the Corps in its exercise of discretion, nor create rights or obligations on the part of permit applicants.

2. References.

a. Clean Water Act Section 404(b)(1) Guidelines (40 CFR 230.10 (a)-(d)), Regulatory Programs of the Army Corps of Engineers

b. 33 CFR 320-331

c. 1990 Memorandum of Agreement, Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines between the Environmental Protection Agency and the Department of the Army

d. Federal Mitigation Banking Guidance (November 28, 1995, 60 FR 58605-58614)

e. In-Lieu-Fee Guidance (November 7, 2000, 65 FR 66914-66917)

f. Regulatory Guidance Letter No. 02-2, December 24, 2002

g. Compensating for Wetland Losses Under the Clean Water Act, National Research Council, National Academy Press, Washington, D.C., 2001

3. Background. The Clean Water Act Section 404 (b)(1) Guidelines and the Army Corps of Engineers implementing regulations require that applicants first avoid and minimize impacts to the aquatic environment, and then compensate for unavoidable impacts to aquatic resources

a. The objective is to implement the mitigation that best achieves the goals of the Clean Water Act that are to restore and maintain the chemical, physical and biological integrity of the Nation's waters, in consideration of any unique hydrological, geographical, and regulatory circumstances.

b. The National Research Council in its report entitled Compensating for Wetland Losses Under the Clean Water Act (NRC 2001, p. 144) states that "*The committee endorses the watershed approach and finds the automatic preference for in-kind and on-site mitigation ... to be inconsistent with that [watershed] approach.*" A watershed-based approach to compensatory mitigation is one that prioritizes aquatic resource protection needs and restoration opportunities, and which evaluates on-site and off-site alternatives, in-kind and out-of kind alternatives, and options such as mitigation banks or in-lieu-fee arrangements.

c. The 1990 Mitigation MOA states: "Generally, in-kind compensatory mitigation is preferable to off-site or out-of-kind." However, the guidance also recognizes that there are circumstances in which out-of-kind compensatory mitigation may be environmentally preferable when taking a watershed perspective.

4. Clarifying Guidance. The Clean Water Act, and the Corps implementing regulations and policies, requires that compensatory mitigation projects replace aquatic functions lost as a result of authorized activities. Ideally, stream functions lost as a result of permanent fills are replaced by compensatory mitigation projects that provide equivalent or similar stream functions within the same watershed. As always, compensatory mitigation projects should be formulated to address the level of anticipated environmental outputs, timing issues associated with functional losses and replacement, and the risks of unsuccessful performance associated with compensatory mitigation plan. However, compensatory mitigation requirements also should consider what is

best in the context of the overall watershed. In certain circumstances or regions of the country, on-site compensatory mitigation opportunities are limited, and the process of identifying and selecting other opportunities to replace or otherwise compensate for project impacts is very important.

a. **General**. Surface mining operations can result in the creation of intermittent and/or perennial streams depending on the on-site hydrological conditions and the chosen methods of dealing with groundwater and/or runoff. Applicants are encouraged to optimize these opportunities for on-site mitigation. Mitigation for permanent fills may occur on-site if appropriate hydrological conditions exist and if natural stream designs, including riparian plantings, are included as part of approved mitigation plans.

(1) The amount of mitigation credit should be based on an assessment procedure that identifies the amount of "ecological lift" provided by compensatory mitigation plans. "Ecological lift" means an increase in aquatic functions.

(2) Mining companies must complete all compensatory mitigation work within specified time frames in order to comply with their mining permit. If as a result of unforeseen circumstances compensatory mitigation work has not been completed before their authorization expires, it will not be necessary to obtain a new mining permit in order to complete mitigation work.

(3) If on-site mitigation opportunities are insufficient to replace the lost aquatic functions, off-site mitigation should be sought in the following sequence: 1) within the 14 digit USGS Hydrologic Unit Code (HUC); 2) the 10 digit HUC code; and, lastly 3) the 8 digit HUC code. If off-site mitigation is proposed outside the 8-digit HUC code watershed where the impacts will occur, the mitigation replacement ratio may be increased depending upon the distance involved and other watershed factors.

(4) If on-site, post-project hydrological or other physical conditions are not available, adequate, or practical to provide all necessary compensatory mitigation, other forms of mitigation options such as mitigation banks and in-lieu fee mitigation are encouraged to be used in accordance with the published guidance pertaining to these types of mitigation, including the long standing practice of applying any in-lieu-fee mitigation on-site as preferred when practicable and in the overall best interest of the aquatic resources in the watershed. These options may also be appropriate in limited circumstances (e.g., for the first of several permanent fills) in order to allow an applicant to begin work in specified areas prior to completion and implementation of a mitigation plan approved by the Corps for the remainder of the project. Any use of in-lieu fee mitigation will be carefully documented as to need and application.

(5) As provided in RGL 02-2, districts should require compensatory mitigation to replace lost aquatic functions. Where no functional assessment methodology, such as a protocol, is available, mitigation for permanent fills should generally compensate impacts to aquatic resources on a one-to-one basis measured in linear feet and/or acres, as appropriate.

b. **Watershed Approach**. As articulated in RGL 02-2, the Corps will utilize a watershed-based approach to aquatic resource protection that considers entire ecosystems and their constituent parts. The Corps determines what level of compensatory mitigation is required to offset aquatic functions lost or adversely affected as a result of activities authorized under Section 404 of the CWA. When determining compensatory mitigation requirements, the Corps shall consider functional replacement objectives, temporal loss, and the likelihood of mitigation success. In specific circumstances, for example, it may be appropriate to replace lost stream functions with wetlands functions, if the existing stream functions being lost are ubiquitous in the watershed and wetland functions are rare or degraded in the watershed.

c. **Conservation Easements**. Historically, the Corps has emphasized the utility of conservation easements for mitigation projects in an effort to reduce the risk of failure or to help ensure that compensatory mitigation outputs required to offset losses, to the extent stipulated in an approved mitigation plan, are achieved. For NWP 21, and even for IP authorizations, this has proved challenging for surface coal mining in much of Appalachia. Experience has shown that obtaining conservation easements is frequently not practicable because multiple owners hold the mineral, oil and gas, timbering, and grazing rights. Additionally, many property owners are reluctant to establish conservation easements that may actually or perceptually restrict their ability to use their land and its resources.

(1) However, as critical and desirable as they are when they can be obtained, conservation easements have not and should not be considered mandatory requirements. Lack of an easement has not and should not disqualify a mitigation proposal, when it can be demonstrated, and documented, that such an easement cannot be obtained for land that is otherwise available and appropriate for use in mitigation. This supplemental guidance encourages case-by-case evaluation to identify where conservation easements are necessary or optional, considers the quality of the resources affected, the potential for future development, and likelihood of initial success of proposed compensatory mitigation plans, and it is determined that the proffered mitigation is sufficient to offset the lack of a conservation easement.

(2) As always, emphasis should be placed on accomplishing successful compensatory mitigation projects and monitoring their performance. The Corps can and should rely on the Sections 401, 402, and 404, and other State programs to assure that these compensatory mitigation projects are protected from future impacts. Alternative assurance methods that are available can and should also be used to record and monitor compensatory mitigation projects.

The risk of mitigation failure through future land use decisions has always and should continue to be a factor in mitigation plan approval decisions.

e. **Consideration of SMCRA Features**. Since on-site compensatory mitigation is preferred, and on-site options are often limited due to topography, hydrology, and land ownership arrangements, Corps staff, Office of Surface Mining staff, and the mining operator should coordinate to explore options for incorporating appropriate drainageways, such as top and side drains, pools, and other features required by SMCRA into compensatory mitigation plans. If successfully implemented, channels and other features will help maintain and potentially improve the physical, chemical, and biological integrity of waters of the United States. As with any other mitigation feature, the amount of mitigation credit should be based on the ecological lift provided to the system.

(1) Where practicable, the Corps should work with applicants to develop acceptable, hydraulically correct natural stream channel designs that can be considered for mitigation credit. In accordance with SMCRA requirements, channels, for example, must be designed to a certain flow capacity (normally sufficient to pass a 25-year to a 100-year flood event) and should be wide and deep enough to accommodate a natural stream channel within the required engineering design.

(2) In high gradient systems stream pattern, profile, dimension and substrate, including their step pool complexes, should minimize infiltration and should not include standing water ponds that would affect the stability of the valley fills. Again, mitigation credit may be considered for plantings of native trees and shrubs that provide functional riparian zone benefits. The aforementioned design parameters must be included in the SMCRA permit application, and be approved by OSM, the responsible State agency, and the Corps.

f. **Limited Sewer Infrastructure Improvements**. The practice of allowing permit applicants the ability to get partial mitigation credit for certain work or structures that improve water quality is not new in certain parts of the country. The Corps of Engineers Regulatory Branch has been moving in this direction for some time because some infrastructure improvements may offer an opportunity for immediate benefits to a waterbody. Although specific parameters have not yet been worked out, two current initiatives, functional assessments and watershed-based decision making, provide the logical basis for encouraging such improvements through mitigation credits.

(1) First, functional assessment methods, such as the Hydrogeomorphic Approach developed by the Corps Engineering Research and Development Center, provide a framework of functional categories and subcategories against which streams are evaluated prior to a permitted operation. Impacts to these functions are evaluated and applicants are required to mitigate for them.

(2) Second, in the watershed approach to permitting, the Corps is attempting to evaluate project impacts and proposed mitigation activities from a holistic watershed perspective. This approach is well suited to addressing certain pollution problems that are pervasive in Appalachia, particularly fecal exceedences and oxygen depletion.

(3) When evaluating impacts and mitigation using the functional assessment methods on a watershed scale, the need to consider certain limited infrastructure improvements, and the wisdom of doing so through mitigation credits for water quality improvements (e.g., removal of sewer "straight pipes"), is obvious. From a policy perspective, efforts should be especially directed toward eliminating raw-sewage discharges from individual residences or small communities into waters that are associated with the permit application.

(4) This guidance recognizes that watersheds may be impaired for multiple reasons beyond the scope of the 404 program. In concert with the watershed approach, the Corps should not limit approval of compensatory mitigation projects to those that only result in habitat construction but also those that result in making existing habitat truly suitable. Watersheds may have water quality challenges that must be overcome before overall ecological restoration and protection can be achieved.

(5) Ordinarily the Corps requires the construction of habitat to achieve functional replacement to accomplish compensatory mitigation. However, under certain circumstances, such as in watershed where streams have been classified as impaired, it may be appropriate to include some increment of sewer infrastructure construction in compensatory mitigation projects to achieve water quality benefits which will contribute to overall protection and restoration of the aquatic environment. Compensatory mitigation credit may be given under the appropriate circumstances for these types of improvements, provided that a direct measurable benefit to both water quality and overall environmental protection can be demonstrated and that such credits do not substitute for infrastructure that a state or local government already has an affirmative obligation on which to act.

5. Temporal Losses and Compensatory Mitigation Project Performance. The Corps must take into account temporal losses; in other words, the time it will take for compensatory mitigation projects to reach maturity. Additionally the Corps must consider the risk associated with the compensatory mitigation to achieve its intended goals. Therefore, the amount of mitigation that may be required will reflect the temporal loss of functions and potential for success and risk of failure. District Engineers should factor into their analysis site-specific and risk factors when determining compensatory mitigation requirements.

6. General.

a. This supplemental guidance does not alter or modify the requirement to comply with applicable with any Federal laws, regulations, or guidance.

b. This guidance does not substitute for those provisions or regulations, nor is it a regulation itself. This guidance does not impose legally binding requirements on the Army Corps of Engineers or applicants for authorizations under the Clean Water Act. The Corps retains the discretion to adopt approaches on a case-by-case basis that differ from this guidance when the District Engineer determines it is appropriate to do so, and such decisions will b e based on the facts of particular cases and applicable legal requirements.

c. This guidance is not intended to alter any provisions of applicable tribal or state law or regulations. It is the responsibility of the applicant to comply with applicable tribal and state laws and regulations.

d. This guidance is effective immediately. Therefore, compensatory mitigation proposals received after this date should be reviewed and modified as necessary in light of the above guidance.

For further information or questions regarding this guidance contact: Ms. Katherine Trott of Corps Headquarters at (202) 761-5542 or Ms. Suzanne Chubb of the Corps Great Lakes and Ohio River Division at (513) 684-7261.

Thomas F. Caver, Jr., P.E.
Deputy Director of Civil Works